# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant(s): Abbas Kadkhodayan<br><br>Application No.: 10/798,210<br><br>Filed: March 11, 2004<br><br>Title: METHOD OF PREPARING ANHYDROUS MANGANESE CHLORIDE<br><br>Attorney Docket No.: EI-7626 | Group Art Unit: 1754<br>Confirmation No.: 6154<br>Examiner: Ngoc-Yen M. Nguyen |

*MAIL STOP AMENDMENT*
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Beth Earnest

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## RESPONSE

Dear Sir:

Applicant submits this Response to the Office Action mailed March 24, 2005.

At the outset, Applicant notes with appreciation that claims 5, 7 and 8 have been acknowledged as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In the Office Action, claims 1-4, 6, 9 and 10 of the present application have been rejected as being anticipated by or rendered obvious in view of the cited Hiler reference. Applicant submits that, based on a careful reading of the Hiler reference, the claimed invention is neither anticipated nor rendered obvious by Hiler. For one or more of the following reasons, Applicant requests that the rejections be withdrawn.

The present invention is directed in claims 1 and 10 to the reaction of a manganese metal powder with hydrogen chloride under anhydrous reaction conditions. An important limitation here is the anhydrous nature of the reaction. The presence of water results in inefficiencies and additional, subsequent process steps necessary to remove water from the resulting manganese chloride compound. Another important limitation here in the claimed invention is that the reaction is between manganese and hydrogen chloride. In solution, hydrogen chloride is well-known and referred to as hydrochloric acid. However, in the circumstances of the presently-claimed reaction, hydrogen chloride is a compound that is not in solution.

Turning now to the Hiler reference, Applicant submits that Hiler nowhere discloses the reaction between manganese and hydrogen chloride. The Examiner has cited the sentence in Hiler that reads as follows: "Anhydrous manganese chloride can also be made by reaction of manganese metal, carbonate or oxide, and dry hydrochloric acid." (Column 11, Lines 9-11). Applicant submits that this passage from Hiler is literally, inherently inconsistent. Applicant speculates that the use of the term "anhydrous" in Hiler is a relative term meaning relatively more anhydrous as compared with the earlier reaction described in the preceding sentences in Hiler. By definition, hydrochloric acid requires water. There is no mention of hydrogen chloride. The term "dry hydrochloric acid" must mean a relatively acidic hydrochloric acid solution that has less water than other hydrochloric acids in a qualitative type of comparison. In view of the explicit language of Hiler, therefore, there is no disclosure or teaching of the specifically-claimed reaction or the specifically-claimed reactants.

The interpretation of the referenced passage in Hiler in terms of a relative sense is reinforced by a later passage in the same paragraph of Hiler. In lines 22 and 23 of column 11, the Hiler patent states the following: "To make anhydrous $MnCl_2$ directly, manganese metal or ferromanganese is chlorinated at 700□ C. to 1000□ C." Presumably, this is an alternative method proposed in Hiler to make manganese chloride "directly" as distinguished from the earlier methods and reaction cited by Examiner. This direct method of manufacturing anhydrous manganese chloride requires the combination of manganese and chlorine at extremely high temperatures. There is no suggestion of the use of hydrogen chloride.

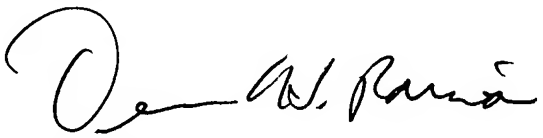
In view of the foregoing, Applicant submits that Hiler does not disclose the claimed invention. The anticipation and obviousness rejection of the claims should be withdrawn.

Applicant also notes that, with respect to claims 2-4 and 6, the rejection by the Examiner is inherently based on impermissible hindsight. With respect to claims 2 and 4, there are substantial and surprising improvements with respect to reaction time that is not predictable other than in hindsight. Similarly, the reaction temperature claimed in claim 3 is well below the only anhydrous reaction temperature cited in Hiler. Claim 3 is limited to reaction conditions with a reaction temperature in the range of about 50□ C. to about 200□ C. Hiler discloses the formation of manganese chloride by combining manganese and chlorine at 700□ C. to 1000□ C. Hindsight is the only basis for finding the claimed range obvious. Finally, with respect to the gas phase of hydrogen chloride claimed in claim 6, there is no disclosure of any comparable reaction condition in Hiler. There is no disclosure of any reaction conditions other than the temperature condition cited above. Therefore, there is no reaction condition to optimize as suggested by the Examiner. The only basis of teaching appears to be impermissible hindsight.

For one or more of the foregoing reasons, Applicant submits that the rejection of the claims in the present application is traversed. The rejection should be withdrawn. Favorable action is requested hereon.

It is believed that there are no fees associated with this filing. However, in the event the calculations are incorrect, the Commissioner is hereby authorized to charge any deficiencies in fees or credit any overpayment associated with this communication to Deposit Account No. 05-1372.

Respectfully submitted,



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